<u>Abstract</u>

This invention provides methods to predict the likelihood of occurrence of the side effect of edema in patients treated with a drug including, but not limited to, a TKI, such as Imatinib or GLEEVEC™/GLIVEC®. The methods employed use gene expression profile comparisons and the determination of specific SNPs and in the IL-1β gene. Methods of treatment of edema and kits for the performance of the above assays are also provided.